



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/950,012	09/10/2001	Bruce M. Warnes	MP-268A	9232

7590

04/02/2003

Mr. Edward J. Timmer
Walnut Woods Centre
5955 W. Main Street
Kalamazoo, MI 49009

EXAMINER

LEUNG, JENNIFER A

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 04/02/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/950,012

Applicant(s)

WARNES ET AL.

Examiner

Jennifer A. Leung

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-11 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, claims 1-6, in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 7-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Drawings

3. FIG. 2 is objected to as failing to comply with 37 CFR 1.84(p)(5) because the reference sign "8a" is not mentioned in the description.
4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include reference sign "26", as mentioned in the description (page 12, line 4).
5. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1764

With respect to claim 1, "the metallic material" (lines 6-7) lacks proper positive antecedent basis. See also claim 6, line 2. Furthermore, it is unclear as to the structural relationship of "a heating device" (line 6) to the other elements of the apparatus.

With respect to claim 6, "said flange" lacks proper positive antecedent basis.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldi (U.S. 3,764,371) in view of Applicant's Disclosed Prior Art.

With respect to claims 1 and 3-4, Baldi (FIG. 1; generally, column 2, lines 37 to column 3, line 24) discloses an apparatus comprising: a base (i.e. retort base **16**); a housing (i.e. outer retort **12**) having a metallic charge (i.e. chromium diffusion pack; column 3, lines 15-24), said

Art Unit: 1764

housing having a region (i.e. lower open end) disposed on said base **16**; an air-tight seal (i.e. sealing strip **14**, inherently an O-ring seal, given the annular shape of the apparatus; column 2, line 63 - column 3, line 8) disposed between said region and said base; said region having a fluid passage (i.e. outer rim **20**; column 2, lines 46-47) for cooling said region; and a heating device (i.e. furnace **10**; column 3, lines 25-33) to heat the metallic material to a reaction temperature.

Although Baldi is silent as to whether said air-tight seal may comprise specifically a polymeric material, such as an acid resistant polymeric material, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to select such a material for the seal in the apparatus of Baldi, on the basis of suitability for the intended use and absent showing unexpected results thereof, since the use of seals comprising acid resistant polymeric material is conventionally known in the art, as evidenced by Applicant's Disclosed Prior Art. Applicants disclose the use of a suitable O-ring comprising an acid resistant fluoroelastomer polymeric material that does not release carbon, such as the *commercially available* "Viton O-ring from Dupont Dow Elastomers, Wilmington, Delaware" (page 7, last paragraph to page 8, paragraph 1). Furthermore, it has been held that the substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958).

With respect to claim 2, Baldi further disclose said region comprises a laterally extending flange region at an end of said housing **12** (see FIG. 1).

8. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarin et al. (U.S. 4,890,574) in view of Applicant's Disclosed Prior Art and Baldi (U.S. 3,764,371).

With respect to claims 1 and 4, Sarin et al. (FIG. 1, 2; generally, column 3, line 14 to column 4, line 45) disclose a metal halide gas generator **8, 8a** comprising: a base (i.e. inner reaction shell **20**); a housing (i.e. outer reaction shell surrounding the inner reaction shell **20**) having a metallic charge (i.e. metallic particulates in reaction chamber **21**), said housing having a region (i.e. top portion of shell touching open end of inner reaction shell **20**) disposed on said base; a seal (i.e. unlabeled rectangular element, disposed between said region and said base in the top portion of the housing); and a heating device **4** to heat the metallic material to a reaction temperature (column 4, lines 26-45).

Although Sarin et al. are expressly silent as to whether said seal comprises an air tight seal of polymeric material, such as a seal of acid resistant polymeric material, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to provide such a seal to the apparatus of Sarin et al., on the basis of suitability for the intended use and absent showing unexpected results thereof, since the use of such seals is conventionally known in the art, as evidenced by Applicant's Disclosed Prior Art. Applicants disclose the use of a suitable O-ring comprising an acid resistant fluoroelastomer polymeric material that does not release carbon, such as the *commercially available* "Viton O-ring from Dupont Dow Elastomers, Wilmington, Delaware" (page 7, last paragraph to page 8, paragraph 1). Furthermore, it has been held that the substitution of known equivalent structures involves only ordinary skill in the art. *In re Fout* 213 USPQ 532 (CCPA 1982); *In re Susi* 169 USPQ 423 (CCPA 1971); *In re Siebentritt* 152 USPQ 618 (CCPA 1967); *In re Ruff* 118 USPQ 343 (CCPA 1958).

Sarin et al. are further silent as to whether said region may comprise a fluid passage for cooling said region. Baldi teaches a high temperature apparatus comprising a water-cooling

Art Unit: 1764

jacket or fluid passage **20** for cooling a sealing strip **14**, which is provided to seal a housing member **12** to a base member **16** in the apparatus (column 2, lines 37-53). It would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to provide a cooling means, such as a fluid passage, for the region in the apparatus of Sarin et al., on the basis of suitability for the intended use and absent showing unexpected results thereof, since the cooling passage protects the seal from high temperatures, as taught by Baldi.

9. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarin et al. (U.S. 4,890,574) in view of Applicant's Disclosed Prior Art and Baldi (U.S. 3,764,371), as applied to claim 1 above, and further in view of Tom et al. (U.S. 5,531,971).

With respect to claim 5, Sarin et al. further disclose an inlet **10** on said base and an outlet **9** on said housing (FIG. 2; column 3, lines 40-56). However, Sarin et al. are silent as to whether the inlet and outlet may comprise zero clearance fittings. In any event, it would have been an obvious design choice for one of ordinary skill in the art at the time the invention was made to provide such fittings to the modified apparatus of Sarin et al., on the basis of suitability for the intended use and absent showing unexpected results thereof, since the use of such fittings is conventionally known in the art, as evidenced by Tom et al. In particular, Tom et al. teach that in semiconductor manufacturing, connections and fitting of high integrity and non-contaminating nature, such as VCR or Swagelok fittings, must be used, since many of the gases used are toxic or flammable, and all must be of exceptionally high purity (column 10, lines 46-50).

With respect to claim 6, Sarin et al. further disclose a perforated gas distribution plate **22** on which said metallic material is disposed, said plate being disposed in said housing downstream in the direction of flow of gas in said generator (see FIG. 2).

Art Unit: 1764

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Pillhoefer et al. (U.S. '123 and '071), Fonzi and Grybowski et al. are provided to illustrate the state of the art.

* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is 703-305-4951. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer A. Leung
March 22, 2003

JAL

Hien Tran

**HIEN TRAN
PRIMARY EXAMINER**